Amendments to the Specification:

Please replace the paragraph beginning on Page 1 at line 21 and ending on Page 2 at line 3 with the following amended paragraph:

Recently, there has been substantial interest in medical procedures involving the cryo-ablation of tissue. In general, such procedures are intended to freeze specifically identified tissue. One procedure for which the cryoablation of tissue is known to be particularly efficacious is in the treatment of atrial fibrillation in the left ~~ventricle~~ atria of the heart. It happens, however, that cryoablation in general, and this procedure in particular, preferably requires temperatures below about minus eighty four degrees Centigrade (-84°C). In order to generate such temperatures deep in the vasculature of a patient, several heat transfer principles need to be considered. Specifically, not only must such very low temperatures be generated, these temperatures must be somehow confined to the proximity where tissue is to be cryoablated.

Please replace the paragraph beginning on Page 5 at line 1 and ending on Page 5 at line 10 with the following amended paragraph:

The source of refrigerant fluid mentioned above is connected in fluid communication with the proximal end of the supply tube. Preferably, the refrigerant fluid is nitrous oxide (N_2O), and it is introduced into the supply tube at a working pressure "p_w" that will typically be in a range between ~~three hundred and fifty psia and five hundred psia (350-500 psia)~~ four hundred and four hundred and fifty psia (400 - 450 psia). The refrigerant fluid then sequentially transits through the supply tube and through the capillary tube. Importantly, as the refrigerant fluid exits from the distal end of the capillary tube, it is substantially still in a liquid state. The dimensions of both the supply tube and capillary tube, as well as the working pressure "p_w" for the refrigerant fluid are specifically chosen for this purpose.

Please replace the paragraph beginning on Page 5 at line 25 and ending on Page 6 at line 2 with the following amended paragraph:

As indicated above, for the operation of the present invention, the working pressure "p_w" on the refrigerant fluid at the proximal end of the supply tube, will preferably be in a range between ~~three hundred and fifty psia and five hundred psia (350-500 psia)~~ four hundred and four hundred and fifty psia (400 - 450 psia). On the other hand, the tip pressure "p_t" on the refrigerant fluid as it leaves the distal end of the capillary tube and enters the cryo-chamber is preferably less than about one atmosphere. Within this environment, after the refrigerant fluid has transitioned into its gaseous state in the cryo-chamber, it will create a tip temperature [["p_t"]] "T_t" that is less than about minus eighty four degrees Centigrade ~~(p_t < -84°C)~~ ($T_t < -84$°C).

Please replace the paragraph beginning on Page 9 at line 15 and ending on Page 9 at line 22 with the following amended paragraph:

As shown in Fig. 3, along with the pressure reduction from "p_w" to "p_t" (i.e. head loss "h_l"), the temperature of the fluid refrigerant will be reduced to a tip temperature [["t_t"]] "T_t" at the distal end 34 of the capillary tube 26 (point D in Fig. 3). For the present invention, the tip temperature [["t_t"]] "T_t" in the cryo-chamber 38 will be less than about minus eighty four degrees Centigrade. Importantly, as this temperature is achieved, the fluid refrigerant transits the capillary tube 26 from its proximal end 32 (point C in Fig. 3) to its distal end 34 (point D in Fig. 3) in its liquid state 50.

Please replace the paragraph beginning on Page 9 at line 23 and ending on Page 10 at line 3 with the following amended paragraph:

As the fluid refrigerant exits into the cryo-chamber 38 from the distal end 34 of capillary tube 26 it evaporates. After boiling has occurred, the consequent rapid rise in temperature of the fluid refrigerant in the cryo-chamber 38 is due, in large part, to heat transfer from the tissue being cryoablated in the patient (not shown). In Fig. 3, this heat transfer is represented by the change in conditions on the fluid refrigerant (now in its gaseous state 48) indicated by the transition from the tip temperature [["t_t"]] <u>"T_t"</u> (point D) to a generally ambient temperature (point E). Fig. 3 also indicates that the heat transfer to the fluid refrigerant in the cryo-chamber 38 is accomplished at a substantially constant tip pressure "p_t". As mentioned above, the establishment and maintenance of this tip pressure "p_t" is facilitated by the action of the vacuum source 20 that operates to evacuate the fluid refrigerant from the system 10.

Please replace the paragraph beginning on Page 10 at line 4 and ending on Page 10 at line 9 with the following amended paragraph:

In the operation of the present invention, the vacuum source 20 is activated to establish a tip pressure "p_t" in the cryo-chamber 38 that is less than about one atmosphere. The exact value of this tip pressure "p_t" may, however, vary to some extent. Importantly, "p_t" is established to evacuate fluid refrigerant from the system 10 and reduce back pressure on the ~~capillary tube 26~~ cryo-chamber 38.

Please replace the paragraph beginning on Page 10 at line 10 and ending on Page 10 at line 23 with the following amended paragraph:

Fig. 4 is a plot of the variations in the tip temperature [[(“t_t”)]] “$\underline{T_t}$” at the distal end 34 of capillary tube 26, as a function of the working pressure (“p_w”) at the proximal end 32 of the capillary tube 26. In particular, the specific measurements shown in Fig. 4 were obtained using a capillary tube 26 having a length “l” equal to 7.35 inches and a diameter “d” equal to 0.008 inches (aspect ratio “d/l” = 0.00109). Although the plot shown in Fig. 4 is specific for a capillary tube 26 having the given dimensions, this plot can be taken as being generally representative of similarly dimensioned capillary tubes 26. In any event, it will be noted that when the working pressure “p_w” (e.g. 450 psia) maintains the fluid refrigerant in its liquid state 50 (i.e. “refrigerant in excess”) as it transits the lumen 30 of capillary tube 26, the tip temperature [[“t_t”]] “$\underline{T_t}$” in cryo-chamber 38 will be minimized. On the other hand, if the fluid refrigerant is allowed to boil and become gaseous (i.e. “refrigerant limited”) inside the lumen 30, the tip temperature [[“t_t”]] “$\underline{T_t}$” rises sharply.